

## CLAIMS

1           1.       A method of controlling communication resources in a transmission from a  
2 first network element to a second network element, where the communication resources are  
3 allocated by a controller, comprising:  
4               monitoring an indication of future need of communication resources in said first  
5 network element;  
6               sending the indication from the first network element to the controller;  
7               controlling the communication resources between the first network element and  
8 the second network element based on this indication.

1           2.       The method according to claim 1, wherein the first network element is  
2 connected to the controller by way of the second network element.

1           3.       The method according to claim 1, wherein the indication includes information  
2 about a transmit buffer of the first network element.

1           4.       The method according to claim 1, wherein the indication includes information  
2 on the additional resources needed for said first network element.

1           5.       The method according to claim 3, wherein the indication includes a  
2 quantization scheme whose values correspond to predefined amounts of resources.

1           6.       The method according to claim 4, wherein the indication includes information  
2 about a transmit buffer of the first network element.

1           7. A method according to claim 1, wherein the first network element is a mobile  
2 station and the second network element is a base station of a wireless communication network.

1           8.     A system for controlling communication resources in a network, comprising:  
2                 a plurality of first stations;  
3                 a second station connected to said plurality of first stations through a plurality  
4 of communication links;  
5                 a controller for controlling the allocation of said communication resources  
6 among said links;  
7                 said allocation being performed in accordance with information transmitted  
8 from said first stations which indicates a need for communication resources.

1           9.     The system according to claim 8, wherein said controller is part of said base  
2 station.

1           10.    The system according to claim 8, wherein said first stations are mobile stations  
2 in a wireless network.

1           11.    The system according to claim 8, wherein each of said plurality of first stations  
2 includes:  
3                 a data generator;  
4                 a data queue;  
5                 an encoder for generating a code representative of the length of the data queue;

1 a transmitter for transmitting said data with said code included therein as a  
2 field.

3 12. The system according to claim 8, wherein said base station includes a receiver  
4 for receiving a transmission and producing data;

5 a decoder for decoding a field of said data and producing an indication of the  
6 data queue in an associated first station;

7 wherein said controller receives said information from said decoder and  
8 allocates communication resources in accordance therewith.

1 13. The system according to claim 8, wherein said indication is provided for each  
2 data block transmitted.